



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,503	01/13/2006	Yasuhiro Kabu	284585US0PCT	8831
22850 7590 03/14/2011 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER WEISZ, DAVID G				
ART UNIT 1777		PAPER NUMBER		
NOTIFICATION DATE 03/14/2011		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

# Office Action Summary

**Application No.**

10/564,503

**Applicant(s)**

KABU ET AL.

**Examiner**

DAVID WEISZ

**Art Unit**

1777

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 February 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. In view of the Appeal Conference on 2/23/11 between David Weisz, Vickie Kim and Benjamin Utech, PROSECUTION IS HEREBY REOPENED. The examiner withdraws the finality of the previous Office action and modifies rejections established in the previous Office action as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 1777

### ***Response to Amendment***

2. In response to the Appeal Conference and the Appeal Brief filed 2/3/11, the examiner modifies the grounds of rejection. The 35 U.S.C. 103(a) rejections have been withdrawn, and 35 U.S.C. 102(e) rejections have been reestablished. Further, 35 U.S.C. 112 2<sup>nd</sup> paragraph rejections have been established.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3, 4, and 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1, 3, 4 and 6, there is claim language that is isolated by brackets and parentheses. The use of brackets and parentheses in these claims makes it unclear as to whether or not the language within them are intended to be claim limitations, and how they are intended to modify the method. Further, the content of the variables recited in the claims is unclear, as the concentrations and compositions are never explicitly defined. With this in mind, the variables could reasonably be interpreted to be any composition or concentration. The examiner reminds the applicant that while the claims are read in light of the specification, limitations from the specification are not read into the claims. Thus, claims 1, 3, 4 and 6-10 are unclear and therefore indefinite.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1, 3, 4, and 6-10** are rejected under 35 U.S.C. 102(e) as being anticipated by Hammon et al. (US 2004/0015012, previously cited) (Hammon).

Regarding claim 1, Hammon discloses a method for supplying reaction gases in a catalytic gas-phase oxidation reaction (see “catalyzed”, “gas-phase”, “oxidation reactor”, paragraph [0001]) in which at least a material to be oxidized (see “methacrolein”, [0011]) and a gas containing molecular oxygen (see “molecular oxygen”,

[0002]) are mixed and the resultant mixture is supplied to a catalytic gas-phase oxidation reactor (see "feed gas mixture", [0029]), wherein a feed rate of the material to be oxidized and a feed rate of the gas containing molecular oxygen are adjusted (see "continuous operation", "feed gas mixture", and "cut-out mechanism" [0032]) so that when a composition of a gas at the inlet of the catalytic gas-phase oxidation reactor is changed from a first reactive composition point represented by plotting a concentration of the material to be oxidized and a concentration of oxygen in the gas at said inlet to a second reactive composition point compositions on the way of the change from the first to the second composition point fall outside an explosion range (see "migrating into the explosion area during the continuous operation", [0032]) wherein the material to be oxidized is isobutylene, tertiary butyl alcohol or methacrolein (see "methacrolein", [0011]), wherein one of the feed rates of the material to be oxidized and the gas containing molecular oxygen is adjusted in advance by increasing it or decreasing it to the direction away from the explosion range and then the other feed rate is adjusted by increasing it or decreasing it to reach the second composition point so that the compositions on the way of the change from the first to the second composition point fall outside the explosion range (see "cut-out mechanism", [0032-0033]).

Regarding claims 3 and 10, Hammon further discloses that the feed rates of the reaction gases are adjusted when certain composition points are reached (see "continuous operation", [0032]). Inherently, a continuous oxidation reaction would have multiple composition points.

Regarding claims 4 and 6, Hammon discloses that a computer is controlled by a characteristic explosion diagram (see "diagram" and "computer", [0146]).

Regarding claims 7-9, Hammon discloses the material to be oxidized may be isobutylene, tertiary butyl alcohol or methacrolein (see "isobutene", "tert-butanol" and "methacrolein", [0011]).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 3, 4, and 6-10 have been considered but are moot in view of the new ground(s) of rejection. With regard to previous discussion

regarding the word "reactive" implying that the method is performed continuously without shutting of the feed, in an Appeal Conference (2/23/11), it was determined that the word "reactive" should not be limited to implying that the feed is not shut off, as the composition would remain reactive before, during and immediately after the feed was shut off , but the claims must be given their broadest reasonable interpretation where two chemical compositions used(Hammon) are in fact "reactive compositions" since they are capable of reacting and they are readily participating in oxidation reaction when they get mixed together in reaction chamber . Since there is no specific definition given by instant specification, the claims must be given their broadest reasonable interpretation. Therefore, the interpretation of claims (i.e. reactive ) should be made based on the full definition of the term "reactive" including " Definition in Chemistry & Physics :Tending to participate readily in reactions ". Thus, it was determined that the Hammon reference is still considered anticipatory to the claims as they currently stand.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID WEISZ whose telephone number is (571)270-7073. The examiner can normally be reached on Monday - Thursday, 7:30 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. W./

Examiner, Art Unit 1777

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 1777